REMARKS

Claims 1-14 and 18-22 stand rejected. Claims 12-14 are canceled without prejudice or disclaimer by the above amendments, and claim 23 is newly presented. Support for claim 23 may be found at least at page 22, lines 1-5. Claims 2, 8, and 18 are amended above to effect minor clerical revisions. Claims 1, 7, 12, 18, and 21 are variously amended to replace the words "including", "having", and "includes" with the corresponding words "comprising"or "comprises".

REJECTIONS UNDER 35 U.S.C. 103

The Examiner has rejected claims 1-14 and 18-22 under 35 U.S.C. 103 as being unpatentable over Application Figures 1 and 2 and the associated text in view of Lehman.

Applicants' invention relates to **frontside to backside** alignment which is illustrated, for example, in Fig. 5. In Fig. 5, the micro-components of the first substrate 20, micro-lenslets 50, are aligned with a respective micro-component of the second substrate 30, micro-channel 60. The embodiment of Fig. 5 illustrates frontside to backside alignment, because the micro-channels 60 of the second substrate 30 are disposed adjacent to the *backside* of the first substrate 20 (i.e., back surface 26, the surface of substrate 20 opposing the micro-lenslets 50). (See also specification at page 20, second full paragraph.) In other words, the respective front surfaces 24, 34 of the first and second substrates 20, 30 each face the same direction, so that the front surface 34 of the second substrate 30 is adjacent the back surface 26 of the first substrate 20 to provide frontside to backside alignment of the micro-lenslets 50 and the micro-channels 60. Independent claims 1 and 7 recite the frontside to backside alignment structure by reciting that the front surfaces of the first and second substrates each face the same direction, in contrast to frontside to frontside alignment in which front surfaces face in opposite directions to oppose each other. Specifically, claims 1 and 7 recite "a first substrate comprising a front surface which faces a first direction, the front surface comprising at least one micro-component... [and] a second substrate comprising a front surface which faces the first direction, the front surface comprising at least one micro-component disposed thereon...". Claims 1 and 7 also recite that the respective front surfaces of the first and second substrates each comprises at least one micro-component.

In a similar vein, independent claim 18 recites the steps of "providing first and second substrates each comprising micro-components disposed thereon and ... positioning the first and

second substrates in stacked relation relative to another such that the front surfaces face the same direction...". Similarly, independent claim 21 recites the steps of "positioning the first and second substrates in stacked relation relative to one another such that the front surfaces face said first direction...[and] mechanically engaging the first alignment element with the depression disposed on the first substrate ... such that micro-components disposed on each of said substrates are aligned".

Hence, each of the Independent claims 1, 7, 18, and 21 recite the features that the respective front surfaces of the first and second substrates face the same direction and that the first and second substrates each comprise micro-components.

In contrast, the proposed combination of Figs. 1 and 2 with Lehman discloses **frontside to frontside** alignment, not the **frontside to backside** of Applicants' invention. The Examiner states that Lehman teaches "'frontside to backside' alignment... between a first substrate 25 and a second substrate 19 to align a microcomponent 12 disposed on the first substrate with the second substrate." (Emphasis Added.) However, the structure in Lehman does not effect frontside to backside alignment between micro-components, for at least the reason that the holder 19 does not contain a microcomponent. Claims 1 and 7 specifically recite "a first substrate comprising a front surface which faces a first direction, the front surface comprising at least one micro-component... [and] *a second substrate comprising a front surface* which faces the first direction, *the front surface comprising at least one micro-component disposed thereon...*" (Emphasis Added.) Therefore, the holder 19 is not Applicants' claimed second substrate for at least the reason that the holder 19 does not comprise a micro–component.

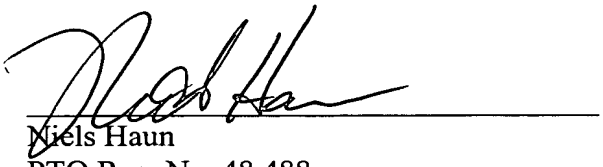
In addition, the holder 26 of Lehman cannot be Applicants' claimed second substrate, for at least the reason that the holder 26 has a front surface that opposes and is adjacent to the front surface of the chip 25. That is, the frontside of header 26 (the lower illustrated surface) is adjacent to the frontside of chip 25 (on which device 12 is situated), not the backside of chip 25 (the side opposing device 12). This is frontside to frontside alignment. The front surfaces do not face the same direction, but oppose each other. Therefore, Lehman also fails to disclose or suggest the features recited in claims 1 and 7 of "a first substrate comprising a front surface which faces a first direction... [and] *a second substrate comprising a front surface which faces the first direction...*" (Emphasis Added.)

In like manner with regard to claim18, Lehman fails to disclose or suggest the steps of "providing first and second substrates each comprising micro-components disposed thereon and ... positioning the first and second substrates in stacked relation relative to another such that the front surfaces face the same direction...". Similarly, with regard to independent claim 21, Lehman fails to disclose or suggest the steps of "positioning the first and second substrates in stacked relation relative to one another such that the front surfaces face said first direction...[and] mechanically engaging the first alignment element with the depression disposed on the first substrate ... such that micro-components disposed on each of said substrates are aligned...".

Further, each of the features missing from Lehman is neither disclosed nor suggested in Figs. 1 and 2 of the Application. Therefore, the proposed combination of Lehman with Figs. 1 and 2 of the Application fails to disclose each and every element of independent claims 1, 7, 18, and 21 for at least the reasons provided above. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections of claims 1, 7, 18, and 21, as well as claims 2-6, 8-11, 19, 20, and 22 which depend respectively therefrom.

In view of the foregoing amendments and remarks, it is believed that the claims in this application are now in condition for allowance. Early and favorable reconsideration is respectfully requested. The Examiner is invited to telephone the undersigned in the event that a telephone interview will advance prosecution of this application.

Respectfully submitted,



Niels Haun
PTO Reg. No. 48,488

DANN DORFMAN HERRELL & SKILLMAN
A Professional Corporation
1601 Market Street, Suite 720
Philadelphia, PA 19103
Phone: (215) 563-4100
Fax: (215) 563-4044